

## EMERGENCY LOCATOR TRANSMITTER - DESCRIPTION AND OPERATION

### 1. General

- A. This section describes emergency locator transmitters used on Model 208 and 208B airplanes.

### 2. Description

- A. Airplanes may be equipped with one of three different emergency locator transmitter systems. The Pointer 3000-11 is a replacement for both the Dorne and Margolin and Pointer 3000-1 systems, and meets TSO-C91A requirements.
- (1) Dorne and Margolin - Airplanes 20800001 Thru 20800127 and 208B0001 Thru 208B0078 were equipped with a Dorne and Margolin system. This system may be identified by a bright orange unit mounted in the tailcone.
  - (2) Pointer Model 3000-1 - Airplanes 20800128 Thru 20800242 and 208B0079 Thru 208B0448 are equipped with a Pointer 3000-1 system. This unit may be identified as a black-on-grey unit, also mounted in the tailcone.
  - (3) Pointer Model 3000-11 - Airplanes 20800243 and On and 208B0449 and On are equipped with a Pointer 3000-11 system.
- B. All transmitters are designed to provide a broadcast tone that is audio-modulated in a swept manner that is a distinct, easily recognizable distress signal for reception by search and rescue personnel and others monitoring the emergency frequencies. All units transmit an omni-directional signal on the international distress frequencies of 121.5 and 243.0 MHz simultaneously. General aviation and commercial airplanes, the FAA and CAP monitor 121.5 MHz, and 243.0 MHz is monitored by the military.

### 3. Operation

- A. Dorne and Margolin system transmits after the unit has received a 5g (tolerances are +2g and -0g) impact force for a duration of 11 to 16 milliseconds. Power is supplied to the transmitter by an alkaline battery pack which enables transmitter to transmit on both frequencies at 75mw rated power output for 48 continuous hours in the temperature range of -4°F to +131°F. Transmitter exhibits line-of-sight transmission characteristics which correspond approximately to 100 miles at a search altitude of 10,000 feet. Alkaline battery pack has replacement date/and date of installation on top of transmitter.
- B. Pointer Model 3000-1 system transmits after unit has received a 5g (tolerances are +2g and -0g) impact force for a duration of 11 to 16 milliseconds. Power is supplied to transmitter by a battery pack consisting of four 1.4V magnesium "D" cell batteries in series. System transmits continuously on both distress frequencies simultaneously at 75mw rated power output between 7.5 hours at approximately -40°F and up to 150 hours at approximately +50°F. System will provide line-of-sight transmission up to 100 miles, depending on search aircraft altitude, weather and topography. Magnesium battery pack replacement date is marked in space on label at the end of the unit.
- C. Both the Dorne and Margolin and Pointer 3000-1 systems have a three-position switch on forward end of unit which controls operation. Placing switch in the ON position will energize the unit to start transmitting emergency signals. In OFF position, unit is inoperative. Placing switch in AUTO position will set unit to start transmitting emergency signals only after unit has received a 5g (tolerances are +2g and -0g) impact force for a duration of 11 to 16 milliseconds. Pointer 3000 Model also incorporates a transmitter annunciator light that illuminates red to indicate the transmitter is transmitting a distress signal. In addition, it also incorporates a G switch reset button that, when pushed in, will reset the inertia G switch to the OFF position.
- D. Pointer 3000-11 system is automatically activated by a deceleration sensing inertia switch. Inertia switch is designed to activate when unit senses longitudinal inertia forces as required in TSO-C91A. Power is supplied to the transmitter by a battery pack consisting of five 1.5 VDC alkaline "C" cell batteries in an impact resistant fabricated foam housing. Unit transmits continuously on both distress frequencies simultaneously. Alkaline battery pack replacement date is marked on battery pack and on label at end of unit.
- E. Pointer 3000-11 system incorporates a master ON-OFF-AUTO switch on unit, and a remote mounted ON-AUTO-RESET control switch. This switch is mounted to instrument panel and allows for remote checks of system without directly accessing the transmitter.